



Use Adaptive Cards and Actionable Messages (and Take Action in Microsoft 365)

#365EduCon

www.365educon.com/DC



**MARTINA
GROM**

Azure & Microsoft 365 MVP
Microsoft RD
@magrom | CEO atwork
martina.grom@atwork.at

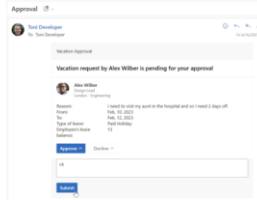


**TONI
POHL**

Azure and Office Dev MVP
@atwork | CTO atwork
toni.pohl@atwork.at

What is the purpose of Actionable Messages?

Actionable Messages enable you to extend the functionality of email messages in Outlook and communication in Microsoft Teams to give recipients the ability to take **quick actions** in an Adaptive Card **without leaving Outlook or Microsoft Teams**.



Demo: Built-in Flow for an Approval in Outlook

0-Send-Approval (request)

Adaptive Cards

Adaptive Cards are a declarative JSON-based format for defining user interface components that can be used across different platforms and devices.

What are Actionable Messages in Microsoft 365?

Actionable Messages (are Adaptive Cards, and) allow users to perform specific engagements without leaving the Inbox.

Demo: Message Card in M365 Groups

"Legacy"

<https://messagecardplayground.azurewebsites.net/>

Demo and rules

How to use Actionable Messages

<https://adaptivecards.io/>

<https://messagecardplayground.azurewebsites.net/>

<https://amdesigner.azurewebsites.net/>

Demo: Sending actionable messages from a flow

1-Send-ActionableMessage (Restaurant menu)

Demo: Teams connector flow

3-Send-Teams

Sending actionable messages from flows or from code

Actionable messages in M365 - Summary



Actionable Messages via office connectors (just configure)




Actionable messages as email via Microsoft Graph (use Flows or Code)




Actionable messages availability in Microsoft Teams (use Flows or Code)

What is the purpose of Actionable Messages?

Actionable Messages enable you to extend the functionality of email messages in Outlook and communication in Microsoft Teams to give recipients the ability to take **quick actions** in an Adaptive Card **without** leaving Outlook or Microsoft Teams.


Approval 

 **Toni Developer**
To: Toni Developer

Fri 6/16/2023 5:22 AM

Vacation Approval

Vacation request by Alex Wilber is pending for your approval

 **Alex Wilber**
Design Lead
London - Engineering

Reason: I need to visit my aunt in the hospital and so I need 2 days off.
From: Feb, 10, 2023
To: Feb, 12, 2023
Type of leave: Paid Holiday
Employee's leave balance: 13

ok

Use cases

- Data processing
- Workflows
- Enter data
- Visualize data
- Make decisions
- Instant processing



Most famous sample: Viva Engage

Storyline

Shared on [Martina Grom's storyline](#) | [View story](#)



Martina Grom
Wed, 26 Apr 2023

5

Today's customer site



Like Comment

You



Toni Pohl <notifications@yammer.com>
To **Martina Grom**

If there are problems with how this message is displayed, click here to view it in a web browser.
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Yammer

Posted in [Projects](#) | [View Conversation](#)



Toni Pohl
Di., 6. Juni 2023 @4

Praise



Danke fürs Einbauen von GT365 Reports in Delegate365 (Request Swarco) und Update-Mechanismus mit D365 BackOffice, Key Vault und D365 App settings!



Praised [Andreas Lillich](#)

Thank Comment

Yo



Toni Pohl Di., 6. Juni 2023

2

<https://twitter.com/atwork/status/1666207522036801561?s=20>

PnP powershell scripterl... Christoph Wilfing Martina...



Toni Pohl <notifications@yammer.com>
To **Martina Grom**

If there are problems with how this message is displayed, click here to view it in a web browser.
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Yammer

Posted in [Microsoft 365](#) | [View Conversation](#)



Toni Pohl
Do., 25. Mai 2023 @3

6

PnP powershell scripterl...

[Christoph Wilfing](#) [Martina Grom](#) [Werner Wopienka](#)

<https://pnp.github.io/script-samples/teams-list-teams-owners-and-members/README.html?tabs=pnp>

[List all Microsoft Teams team's Owners and Members | PnP Samples](#)

Like Comment

Be the first to like this



Write a comment

Demo: Built-in Flow for an Approval in Outlook

0-Send-Approval (request)

Adaptive Cards

Adaptive Cards are a declarative JSON-based format for defining user interface components that can be used across different platforms and devices.

Your flight booking

Passengers

Sarah Hum
Jeremy Goldberg

2 Stops

Tue, May 30, 2023 9:25 PM

San Francisco, SFO
to
Amsterdam, AMS

Non-Stop

Wed, Jun 5, 2023 10:50 AM

Amsterdam, AMS
to
San Francisco, SFO

Total
\$4,032.54

Your flight booking

Passengers

Sarah Hum
Jeremy Goldberg

2 Stops

Tue, May 30, 2023 9:25 PM

San Francisco

SFO



Amsterdam

AMS

Non-Stop

Wed, Jun 5, 2023 10:50 AM

Amsterdam

AMS



San Francisco

SFO

Total

\$4,032.54

- Activity update
- Calendar reminder
- Flight itinerary
- Flight update
- Food order**
- Image gallery
- Restaurant
- Sporting event
- Stock update
- Weather compact
- Weather large
- Product video
- Agenda
- Expense report
- Flight details
- Simple fallback
- Activity update with labels
- Calendar reminder with labels
- Expense report with labels

Samples and Templates

These samples are *just a teaser* of the type of cards you can create. Go ahead and tweak them to make any scenario possible!

Important note about accessibility: In version 1.3 of the schema we introduced a [label](#) property on Inputs to improve accessibility. If the [Host app you are targeting](#) supports v1.3 you should use `label` instead of a `TextBlock` as seen in some samples below. Once most Host apps have updated to the latest version we will update the samples accordingly.

Food order sample

JSON Copy

```
{
  "$schema": "http://adaptivecards.io/schemas/adaptive-card.json",
  "type": "AdaptiveCard",
  "version": "1.0",
  "body": [
    {
      "type": "TextBlock",
      "text": "Your registration is almost complete",
      "size": "medium",
      "weight": "bolder",
```

The JSON "code"




☐ Use Adaptive Card Templating Updated May 2020

Templating enables the separation of **data** from the **layout** in an Adaptive Card. It helps design a card once, and then populate it with real data at runtime. *Note:* The binding syntax changed in May 2020. [Get started with templating >](#)

Adaptive Card Try it Yourself >

Your registration is almost complete

What type of food do you prefer?



Steak ▾Chicken ▾Tofu ▾

The output


In Viva Connections

Today's lunch

×

Lunch options

What would you like to order today?



If you have any special wishes pls. add them here:

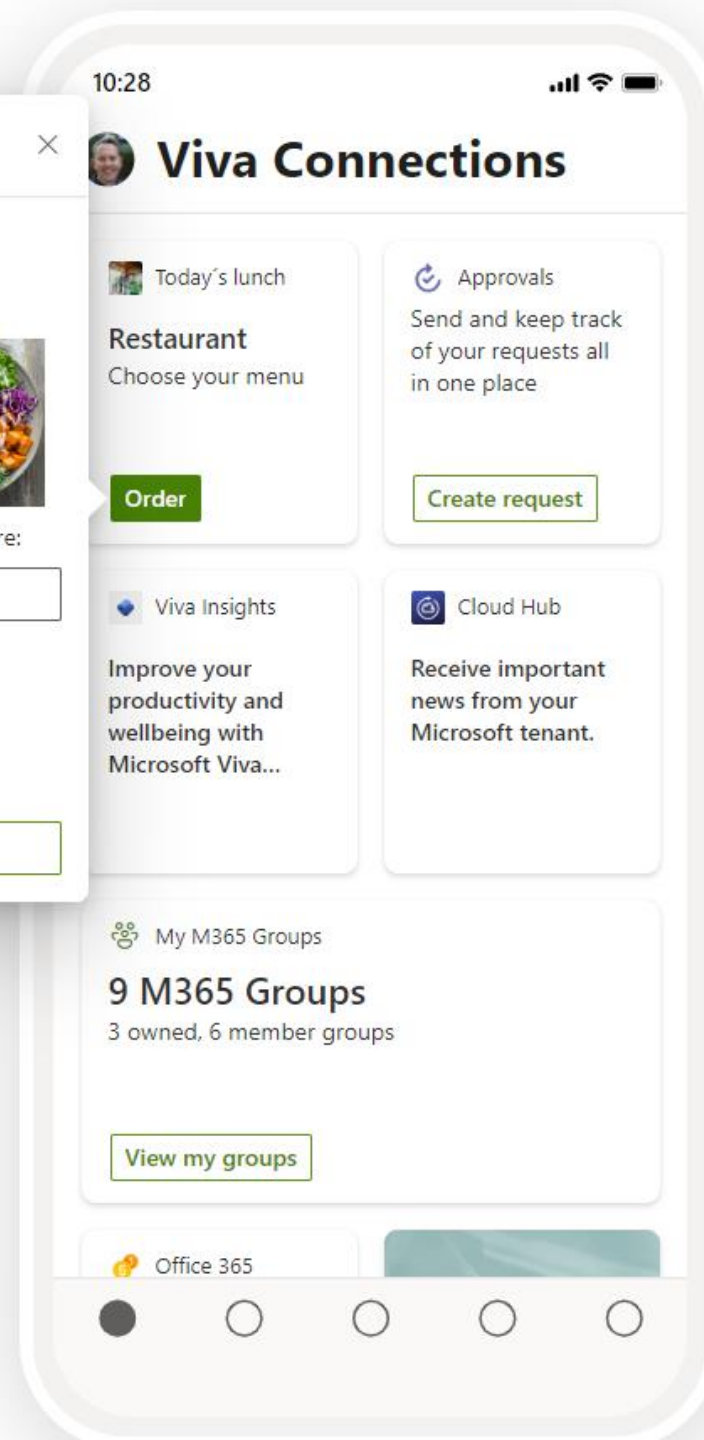
Submit your menu wish.

☐ Menu 1 (Schnitzel)

☐ Menu 2 (Pasta)

☐ Menu 3 (Vegan)

Submit



In Teams



Toni Developer via Power Automate 11:46 AM

Lunch options

What would you like to order today?
(4ffceaf5-4441-4960-a3c4-26c7124a1ee8)



If you have any special wishes pls. add
them here:

special requests...

Submit your menu wish.

- ☐ Menu 1 (Schnitzel)
- ☐ Menu 2 (Pasta)
- ☐ Menu 3 (Vegan)

Submit

← Reply

In Outlook

Today's menu



Toni Developer

To: Toni Developer



Wed 9/14/2022 11:10 AM

Adaptive Card design session

What would you like to order today?



If you have any special wishes pls. add them here:

Submit your menu wish.

Menu 1 (Schnitzel)

Menu 2 (Pasta)

Menu 3 (Vegan)

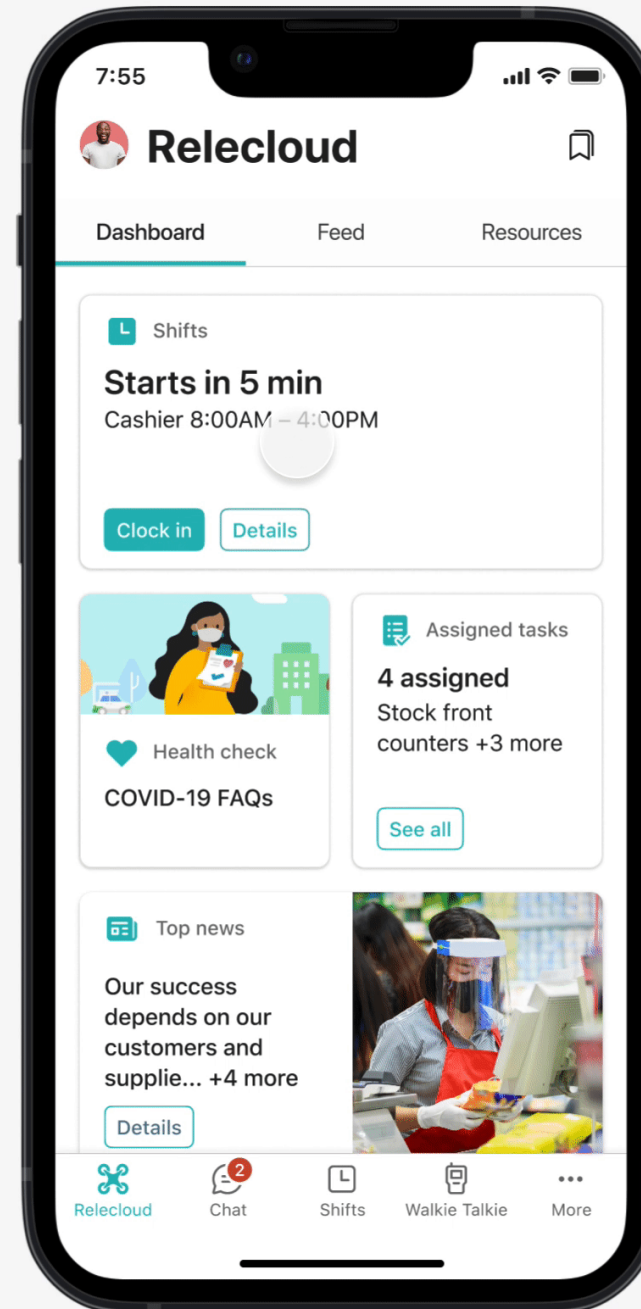
Visit the [Outlook Dev Portal](#) to learn more about Actionable Messages.

← Reply

→ Forward

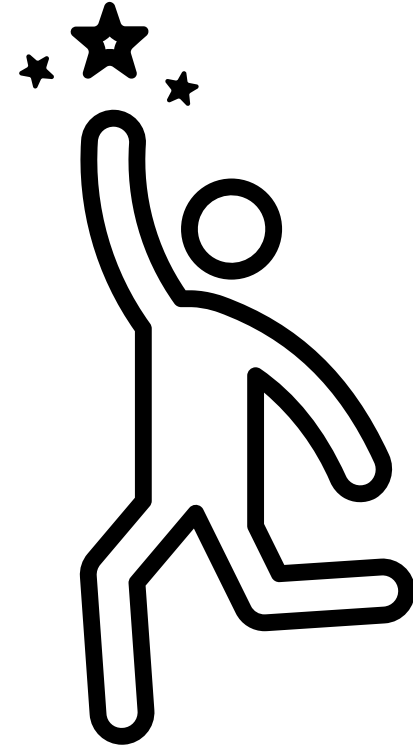
Design principles

- Integrate rather than duplicate
- Stay in context
- Bring cards to life with relevant and dynamically refreshable data
- Avoid too many clicks



You can use Adaptive Cards within Microsoft 365!


- Microsoft Teams
- SharePoint
- Outlook
- Power Apps
- Microsoft Forms
- Microsoft Search
- Viva Connections
- Bots
- Websites
- More...



What are Actionable Messages in Microsoft 365?

Actionable Messages (are Adaptive Cards, and) allow users to perform specific engagements without leaving the Inbox.


Actionable Message sample

 Contoso Group
Private Group

Elvia Atkins would like to add 3 members to your group.


Select the requests you want to approve or decline.

☐




Miguel Garcia
Program Manager
Oslo-O365
"Please add me. I am new to the team."

☐



Daisy Phillips
Program Manager II
Oslo-O365
"Please add me. I am new to the team."

☐



Kat Larsson
Senior Design Manager
Redmond B-3
"Please add me to this group. I will be working with the development and design team from now on and being part of this group would be helpful"

Approve Selected

Decline Selected

Actionable messages in Microsoft 365 Options



Actionable messages via Office
connectors



Actionable messages as email
via Microsoft Graph



Actionable messages
availability in Microsoft Teams

Support (requirements) in Outlook to send AM's

Client	Actionable messages supported?	Adaptive card supported?
Outlook on the web for Microsoft 365	Yes	Yes
Microsoft 365 Apps Current Channel	Yes	Yes
Microsoft 365 Apps Monthly Enterprise Channel	Yes	Yes
Microsoft 365 Apps Semi-Annual Enterprise Channel	Yes	Yes
Outlook on Mac	Yes, version 16.0.12817.10000	Yes (Legacy MessageCard format is not supported)
Outlook on iOS	Yes, version 4.34.0	Yes (Legacy MessageCard format is not supported)
Outlook on Android	Yes, version 4.1.71	Yes (Legacy MessageCard format is not supported)
Office Professional Plus (Click-to-Run only), all versions	No	No
Exchange On-Premises Outlook on the web, all versions	No	No

Demo: Message Card in M365 Groups

“Legacy”

<https://messagecardplayground.azurewebsites.net/>

AM in Outlook and Microsoft 365 Groups

**Can be posted via a group
or inbox connector**

Note: Office connectors only support the [legacy MessageCard format](#) for cards. They do not support the Adaptive Card format.

**Can be sent directly
via email**

Note: Microsoft 365 administrators can disable actionable messages via the `Set-OrganizationConfig` cmdlet (ExchangePowerShell, `[-ConnectorsActionableMessagesEnabled <Boolean>]`).

Demo and rules

How to use Actionable Messages

<https://adaptivecards.io/>

<https://messagecardplayground.azurewebsites.net/>

<https://amdesigner.azurewebsites.net/>

Try it out & send send an AM to yourself

Choose a sample card closest to your scenario to customize it or Design a card from scratch.

[Click here](#) to send an AC v1.4+ card to yourself

Blank Card


Drag and Drop elements
to design your own card

Expense Approval

Expense Approval

#ER-093249-90

Expense report by Miguel garcia is pending your approval.



Miguel Garcia
Program Manager
Oslo-0365

"Please approve the expenses incurred during my trip to San Francisco for the annual developer conference."

Total Amount:
\$1,473.35

Requested on:
09/21/2019

Activity History

Expense Details

Approve

Reject


Multiple Request Approval

Contoso Group

Private Group


Elvia Atkins would like to add 3 members to your group.

Select the requests you want to approve or decline.

☐ 


Miguel Garcia
Program Manager
Oslo-0365

"Please add me, I am new to the team."

☐ 

Daisy Phillips
Program Manager II
Oslo-0365

"Please add me, I am new to the team."

☐ 

Kat Larsson
Senior Design Manager
Redmond B-3

"Please add me to this group. I will be working with the development and design team from now on and being part of this group would be helpful"


Approve Selected

Decline Selected

Vacation Approval

Vacation Approval

Vacation request by Collin Ballinger is pending your approval.



Collin Ballinger
Design Lead
Bangalore - 0365

Total Amount:
I need to visit my aunt in the hospital and so I need 2 days off.

From:
23.09.2019

To:
25.09.2019

Type of leave:
Paid leave

Employee's leave balance:
13 days

Approve

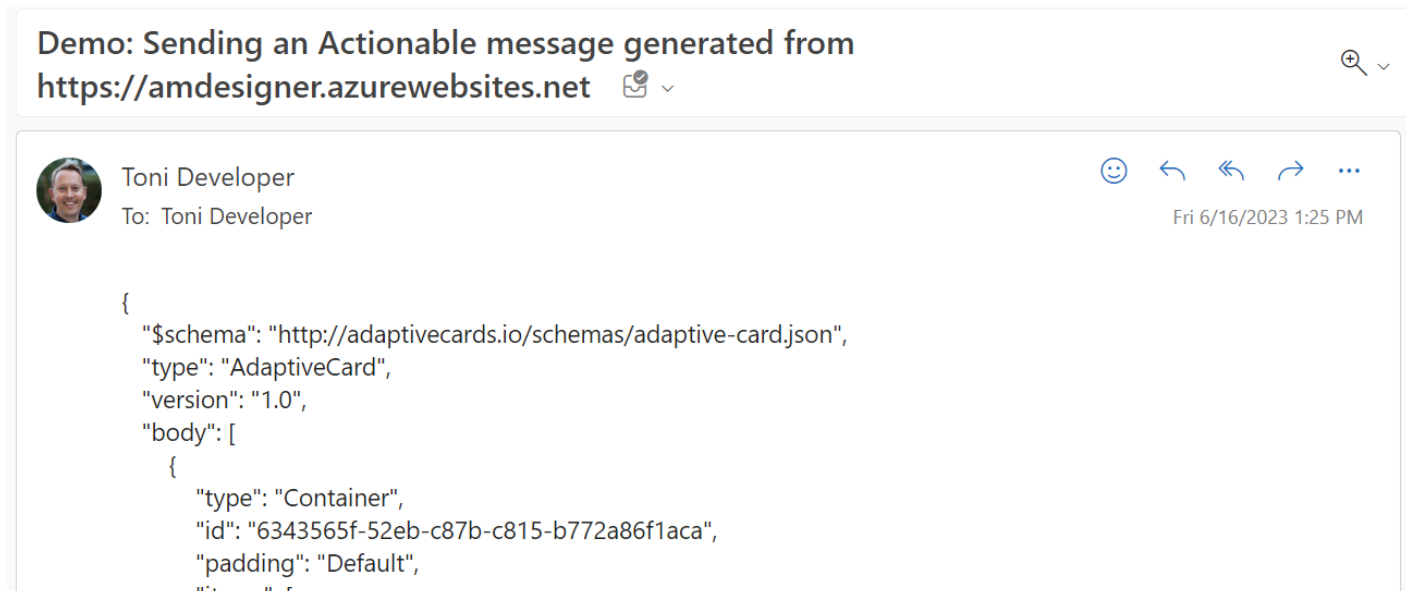
Decline

Demo: Send an AM as email

8-Send-email-action

Rules #1 for sending an Actionable Message

- Because the card JSON must be wrapped in a `<script>` tag in the `<message-header>`, the body of the actionable message email MUST be HTML.
- Plain-text messages are not supported.



Rule #2: Security requirements for Actionable Messages in Microsoft 365

- Enable sender verification [configure DomainKeys Identified Mail (DKIM) and Sender Policy Framework (SPF)]
- Your service must be registered with Microsoft
- The Action URL must support HTTPS.
- Verify the bearer token included in the header of the HTTP POST request
- <https://learn.microsoft.com/en-us/outlook/actionable-messages/security-requirements#sender-verification>

Demo: Send AM with Graph

aka.ms/ge

4-Playground-GraphSend (as an app – use KeyVault/Managed Identity)

Demo: Send AM to a group/user...

1-Send-ActionableMessage

projectvienna@tpe5.onmicrosoft.com
toni@tpe5.onmicrosoft.com

Rules #3: Send an actionable message via email in Microsoft 365

- **The recipient must be an individual**, not a group.
- The recipient must be visible on the message.
Do not put the recipient in the BCC field.
- The recipient must have a mailbox on Outlook.com or Exchange Online in Office 365.

PV

Project Vienna ☆

Private group • 15 members

Send email

...

✓ Inbox

Toni Developer

Today's menu

Visit the Outlook Dev Portal to learn more about Actionable Me...

1:35 PM

Today's menu

Toni Developer

To: Project Vienna

Visit the [Outlook Dev Portal](#) to learn more about Actionable Messages.

Reply all

Forward

The Actionable Message Card is missing...

⏪

⏩

⋮

Fri 6/16/2023 1:35 PM

Send an Adaptive Card samples on GitHub

- Send Actionable Message via Microsoft Graph:
A sample app written in C# that sends an actionable message using [Microsoft Graph](https://github.com/OfficeDev/outlook-actionable-messages-csharp-token-validation).
<https://github.com/OfficeDev/outlook-actionable-messages-csharp-token-validation>
- Send Actionable Message via SMTP:
Sample scripts using Office 365.
<https://github.com/OfficeDev/outlook-dev-docs/tree/main/docs/actionable-messages>

Demo: Sending actionable messages from a flow

1-Send-ActionableMessage (Restaurant menu)

Create the Actionable Message

```
replace(variables('GraphRequestBody'),'<HTMLBody>',  
replace(replace(variables('HTMLBody'),'##ACTIONABLECARD##',replace(replace(variables('ActionableCardJSON'),'<postbackurl>','parameters('PostBackUrl)'),'<RequestID>',variables('RequestID'))),'"','\\"'))
```

Use Graph with app authentication

If so: Use KeyVault / Managed Identity!

Authentication

* Authentication type

Active Directory OAuth

Authority

https://login.microsoft.com

* Tenant

<your-tenant-id>

* Audience

https://graph.microsoft.com

* Client ID

<your-app-id>

* Credential Type



Secret

* Secret


<your-app-secret>

Use Graph with app authentication


Add permissions to the Managed Identity app!

Authentication  

* Authentication type

Managed identity 

* Managed identity

System-assigned managed identity 

Audience

<https://graph.microsoft.com>

Demo: Teams connector flow

3-Send-Teams

Sending actionable messages from flows or from code

Menu Selection Report

4

Orders

Data...

Menu

☐ Select all

☒ 1

☐ 2

☒ 3

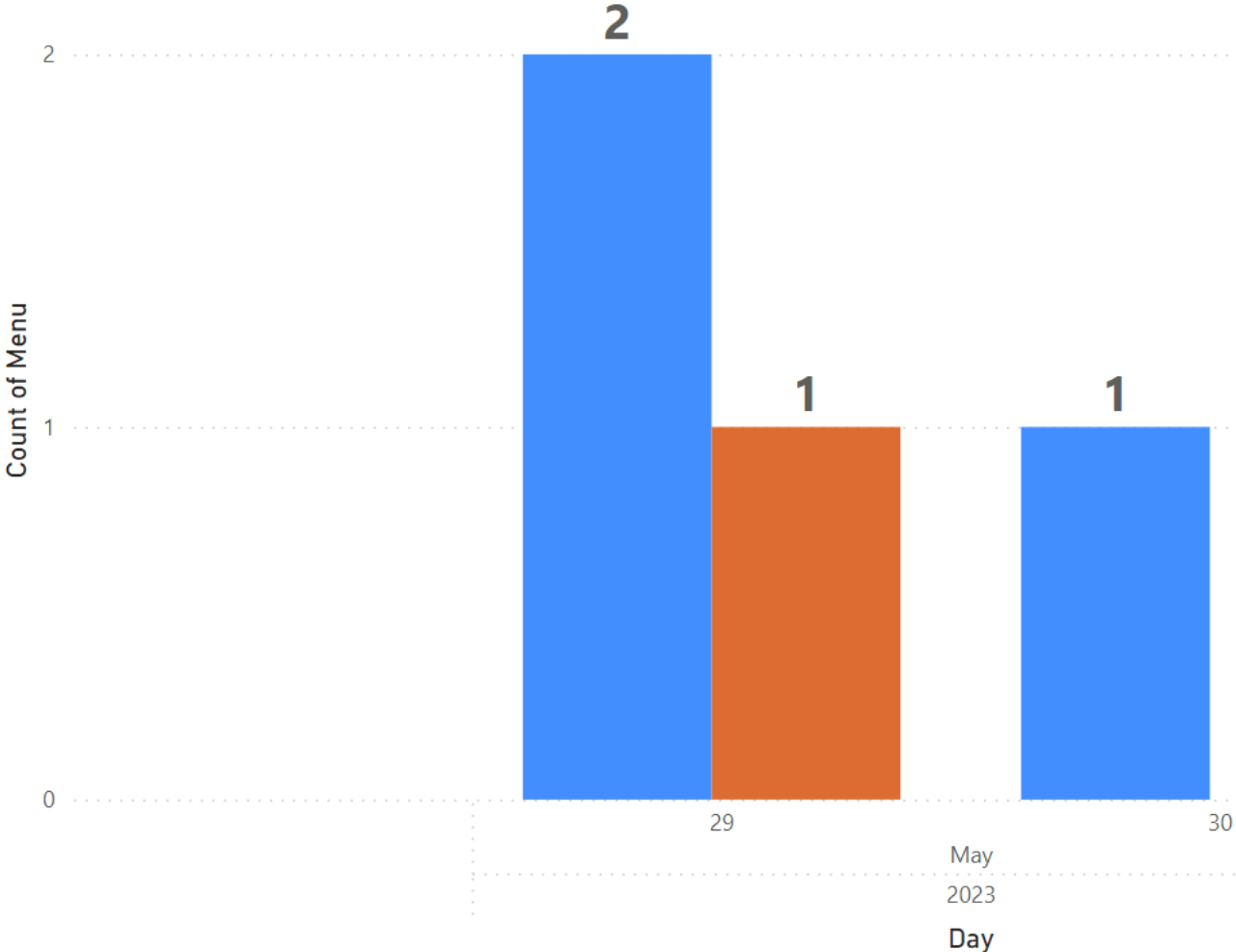
Year, Month, Day

☐ Select all

☒ 2023

Count of Menu by Year, Month, Day and Menu

Menu ● 1 ● 3



Actionable messages in M365 - Summary



Actionable Messages via office
connectors
(just configure)



Actionable messages as email
via Microsoft Graph
(use Flows or Code)



Actionable messages
availability in Microsoft Teams
(use Flows or Code)

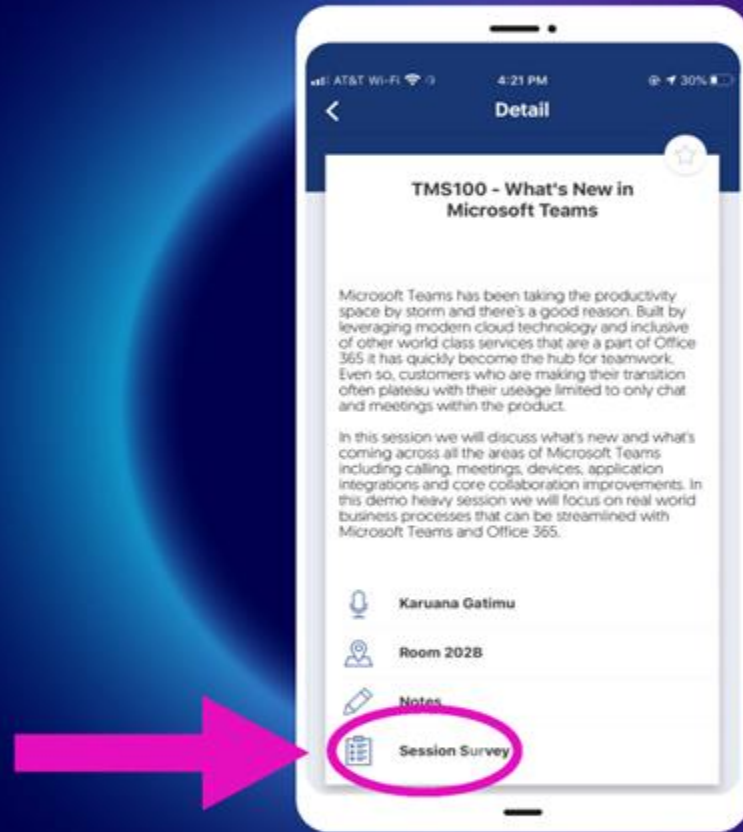
Links

- Types of cards in Microsoft Teams
<https://docs.microsoft.com/en-us/microsoftteams/platform/task-modules-and-cards/cards/cards-reference>
- Action types Card actions
<https://docs.microsoft.com/en-us/microsoftteams/platform/task-modules-and-cards/cards/cards-actions?tabs=json>
- Work with Universal Actions for Adaptive Cards
<https://docs.microsoft.com/en-us/microsoftteams/platform/task-modules-and-cards/cards/universal-actions-for-adaptive-cards/work-with-universal-actions-for-adaptive-cards#user-ids-in-refresh>
- Actionable Message Debugger Outlook Add-in
<https://actionablemessagedebugger.azurewebsites.net/>
- Adaptive Cards Designer and samples
<https://adaptivecards.io/>
- Actionable Messages Designer
<https://amdesigner.azurewebsites.net/>
- Requirements for actionable messages
<https://docs.microsoft.com/en-us/outlook/actionable-messages/#outlook-version-requirements-for-actionable-messages>
- Security for actionable messages
<https://docs.microsoft.com/en-us/outlook/actionable-messages/security-requirements>
- Rules for actionable messages in Email
<https://docs.microsoft.com/en-us/outlook/actionable-messages/send-via-email>
- This presentation and samples
<https://github.com/tonipohl/ActionableMessages>

How was the session?

Search for **365 EduCon** in the App Store or Google Play

Fill out the Session Surveys in the **365 EduCon App** and be eligible to win **PRIZES!**



Thank you!



Resources:

[https://github.com/tonipohl/
ActionableMessages](https://github.com/tonipohl/ActionableMessages)

Let's connect!

 @magrom

 @atwork

Pls. rate the session in the
365 EduCon App

